

# EPIGAP Optronik GmbH

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## Data Sheet

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### High Power IR LED

### EOLS-810-496

Rev. 02, 2017

Radiation	Type	Case
Infrared	AlGaAs	SMD 3838 (1515)

**Description:**

- Size 3.8 (W) x 3.8 (L) x 1.0 (H) mm
- Circuit substrate: AlN ceramics
- Devices are RoHS conform
- Lead free solderable, soldering pads: silver plated
- High radiation intensity

#### Maximum Ratings

$T_{amb} = 25^{\circ}\text{C}$ , unless otherwise specified



Parameter	Test conditions	Symbol	Value	Unit
Forward current		$I_F$	350	mA
Peak forward current	$t_p \leq 100 \mu\text{s}, \tau=1:10$	$I_{FM}$	1000	mA
Reverse current	$V_R=5 \text{ V}$	$I_R$	100	$\mu\text{A}$
Reverse voltage	$I_R=100 \mu\text{A}$	$V_R$	5	V
Storage and operating temp. range		$T_{stg}$	-40 to +85	$^{\circ}\text{C}$
Thermal resistance		$R_{thJA}$	10	K/W

#### Optical and Electrical Characteristics

$T_{amb} = 25^{\circ}\text{C}$ , unless otherwise specified

Parameter	Symbol	Conditions	Min	typ	max	Unit
Forward voltage	$V_F$	$I_F=350 \text{ mA}$		1.7	2.1	V
Radiant power	$\Phi_e$	$I_F=350 \text{ mA}$		38		mW
Radiant Intensity	$I_e$	$I_F=350 \text{ mA}$		25		mW/sr
Peak wavelength	$\lambda_p$	$I_F=350 \text{ mA}$	800	810	820	nm
FWHM	$\Delta\lambda_{0,5}$	$I_F=350 \text{ mA}$		39		nm

We reserve the right to make changes to improve technical design and may do so without further notice. Parameters can vary in different applications. All operating parameters must be validated for each customer application by the customer.

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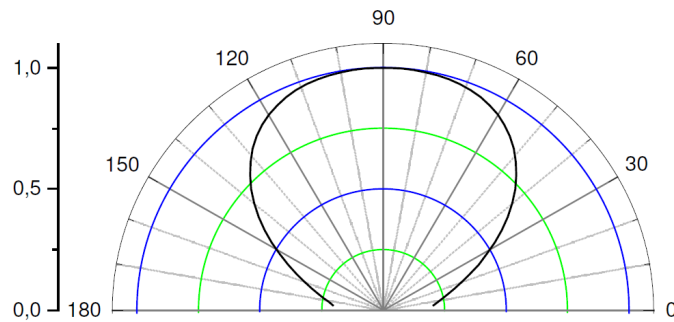
## Data Sheet

### High Power IR LED

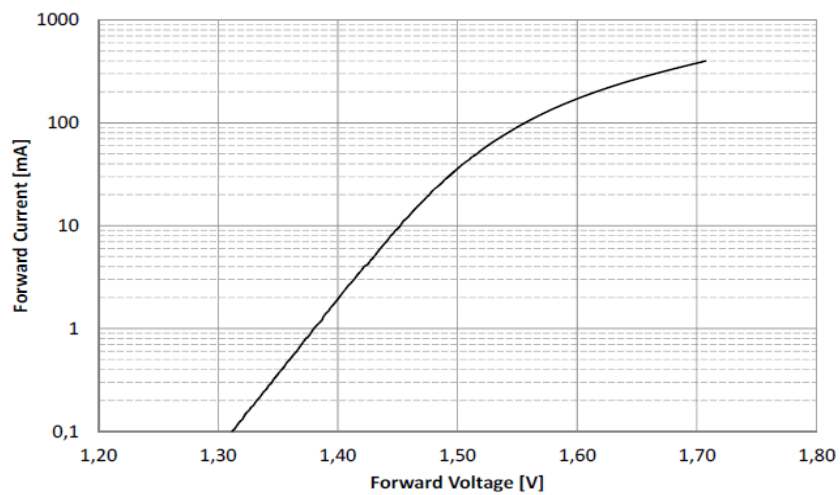
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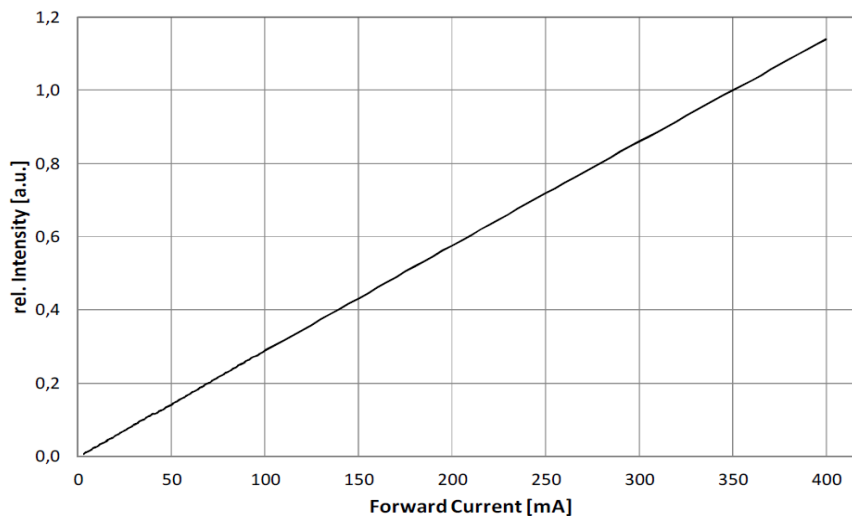
#### Radiation pattern



#### $I_F - U_F$ characteristic



#### $I_{e, rel} - I_F$ characteristic



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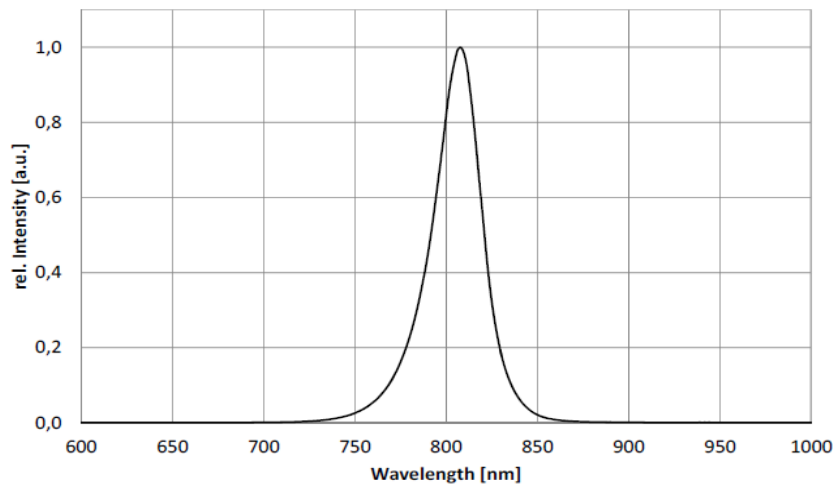
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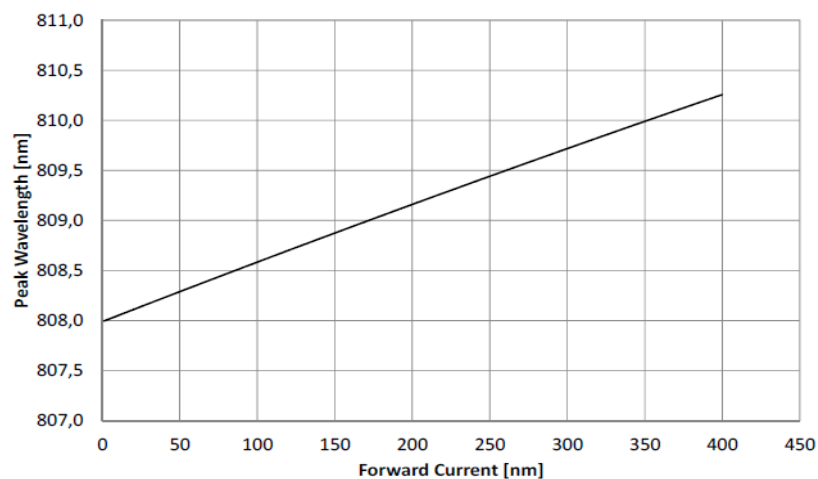
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#### Spectrum @ 350 mA



FWHM  $\Delta\lambda=30$  nm (@ 350 mA)

#### Peak wavelength vs. forward current



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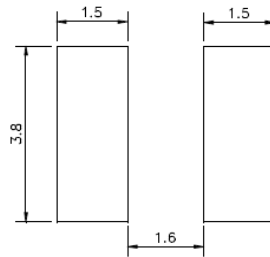
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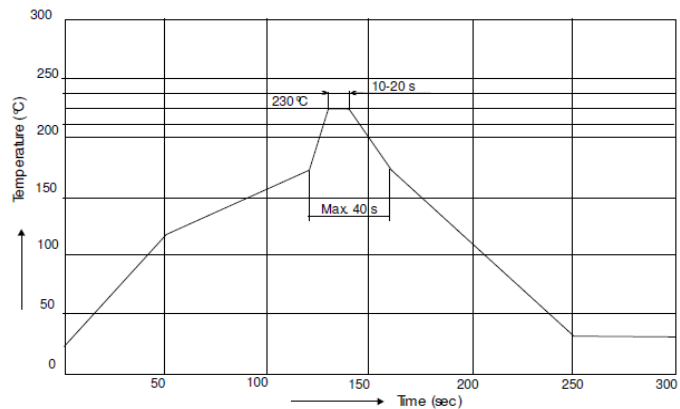
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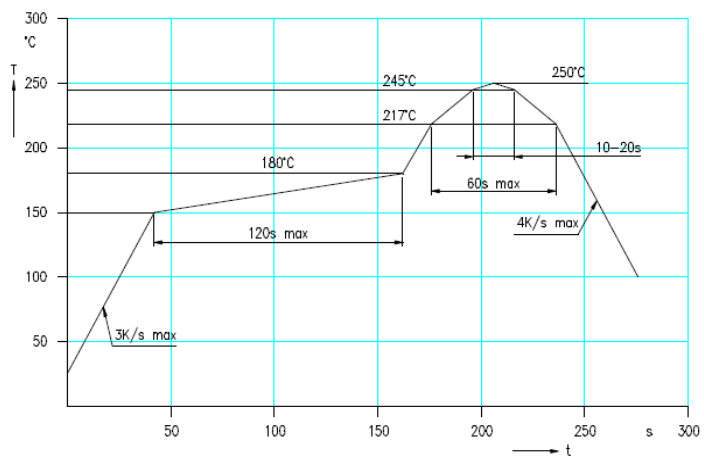
#### Recommended Soldering Patterns



#### IR reflow soldering profile



#### IR reflow soldering profile for lead free soldering



**Manual soldering:**  
max power of iron 25 W / 3 s /  
300°C



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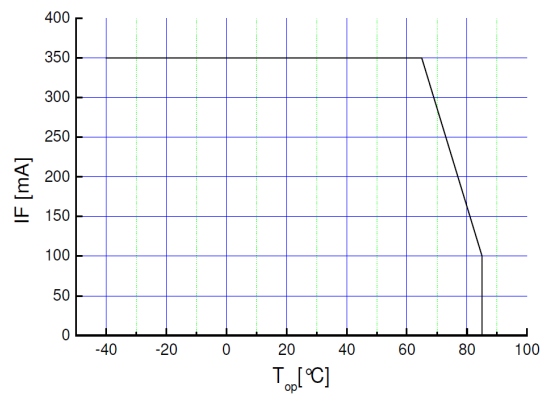
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Measured according to CIE 127. All SMD-LEDs are 100% measured and selected on full automated equipment with an accuracy of  $\pm 11\%$ .

#### Maximal forward current (DC) characteristic



Art. No. 133 089



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